his talents? The power is in his own hands to protect himself, but he will not use it. The moment he sees an advertisement for a plan, and too generally the premium is inconsiderable compared to the professional value of such required plans, he, without first setting down and counting the cost of so great a work, and the risk occasioned by the competitors being numerous, immediately applies for the particulars; and when they are obtained, he devotes all his thoughts to the matter, till his composition is placed on the paper. He then forwards them to the advertising committee; he anxiously waits for the decision day after day, and at last, probably, he receives a note (without any thanks for his production) merely to say that the committee selected a competent person to decide on the best plan for the purposes required, and that Mr. So and So's has been selected. Then the architect begins to redect; he then estimates the value of his design, and finds his labour has been spent for nought. It is important that each competitor should carefully watch the movements of these committees after the plan is chosen, and ascertain the amount of estimates for the execution of the works from the chosen plans: if the amounts exceed the statements in the advertisement, the contract is then certainly broken by the committee, and he should resort to the course laid down by "Defenso." Also, let the whole matter be brought before the public, by means of your publication, which is found so exceedingly useful in all architectural matters. I trust you will pardon me for thus intruding at such length, but it appears that the unpleasantness which is experienced by us may be much lessened if this course be adopted; and that, instead of spending all our time and abilities for the benefit of others, some return may be obtained for ourselves.

I am, Sir, &c.,
Ramsgate, Feb. 1, 1847. W. E. S.

TENDERS FOR COTTON-MILL AT PLEASLEY.

DEAR SIR,—A paragraph appears in your number of Saturday last, in which our name appears as tendering for a cotton mill, at Nottingham. We have never done so; but it appears one Mr. Thomas Burton tendered on his *own* account, ordering an agent to do so, he never seeing the estimates or drawings before delivery. This agent appears to have made a serious mistake. And Mr. T. B. is as much astonished as your correspondent observes "The natives are." Yours respectfully,

THOS. BURTON AND SONS.
150, Aldersgate-street, Feb. 1st, 1847.

CURVED IRON GIRDERS.

SIR,—Being unable to meet with any formula for determining the strength of curved iron girders, you would oblige me could you, or any of your correspondents, furnish the means of determining the ratio between a flat iron girder and a curved one of the same form and transverse sectional area.

I am, Sir, &c., G. S. P.
Manchester, Jan. 25, 1847.

P.S. Can you inform me also if any experiments have been published? I find that the experiments of Mr. Eaton Hodgkinson treat only of flat girders.

EXPENSE OF PRIVATE BILLS.—It is to be hoped that the evidence on this point, taken before the House of Commons last session, will lead to some change. Mr. Chadwick shewed in the case of an opposed water bill that one-fourth of the money on which the inhabitants would have to pay interest, went for Parliamentary expenses. It is asserted that the money expended in Liverpool for the private Act legislation would have sufficed for the effectual drainage of more than 2,000 houses.

CHICHESTER CATHEDRAL.—A meeting was held in this cathedral on the 14th ult., to take steps for obtaining funds for its much needed restoration. The Duke of Richmond, we are told, gave 500*l.*, and Mr. J. A. Smith, M.P., the same. The dean, who has taken up the matter warmly, proposes to build a new church close to the cathedral, for a congregation which has from time immemorial assembled within the latter; on what sufficient grounds, however, we have not yet heard.

Miscellanea.

PROJECTED WORKS.—Advertisements have been issued, through the past and previous week, for contract-tenders for erection of cottages at Ashford; station and other works at Hull; tunnel at Woodhead; fence wall at Swinton, with gates, iron-railings, &c., also for 2,500 tons of rails and 750 tons of chairs for Malton and Driffield Railway; the whole works on about 5¼ miles and 1,120 yards of Birmingham, Dudley, &c.; a portion of Fleetwood, Preston, and West Riding Junction; 8 miles 1 furlong, 3¼ miles and 7 miles 2¼ furlongs of Manchester and Leeds; 6 miles 30 chains of Bristol and Exeter; 3¼ miles and 5¼ miles of Whitehaven and Furness; 21 miles of Glasgow and Carlisle, in two or more divisions, also 4 miles of same; and 3,200 yards of Edinburgh and Bathgate Railways; also repair of Bromyard turnpike trust roads in 8 districts; sewering, making, and macadmizing road at Birkenhead; repairs of roads, wells, &c. and granite chippings, gas fittings, &c. for metropolitan districts; erection of a house and offices at Teignmouth; of farmery at Bury; and five houses at Stafford; razing and rebuilding bridge at Staleybridge, with iron roadway; rebuilding seven bridges in Cardiganshire; taking down and rebuilding bridge at Dalmuir, Scotland, and culvert there; three portions of cutting, embanking, and masonry with sluices, wooden bridges, roads, reservoirs, basins, conduits, &c., at Gorbals water-works, Glasgow; and for 100 cast-iron lamp-posts with wrought-iron lantern frames, pitching-irons, nutts, screws, &c., at Liverpool. By a mischance some of the above were omitted last week, but most of them are still current.

DIMENSIONS OF EUROPEAN CHURCHES.—The *Roman Advertiser* of December 26th, says "those who attended at St. Peter's during the august ceremonies of Christmas-day, might, perhaps, have imagined that temple, in all parts open to the public during the function, as much crowded as possible. To shew the impossibility of St. Peter's being *ever* crowded, we annex the following statistics of its capabilities, as compared with other great churches, allowing four persons to every quadrate meter (square yard):—

	Persons.	Sq. yds.
St. Peter's	54,000	13,500
Milan Cathedral	37,000	9,250
St. Paul's, at Rome	32,000	8,000
St. Paul's, at London	25,600	6,400
St. Petronio, at Bologna	24,400	6,100
Florence Cathedral	24,300	6,075
Antwerp Cathedral	24,000	6,000
St. Sophia's, at Constantinople	23,000	5,750
St. John, Lateran	22,900	5,725
Notre Dame, at Paris	21,000	5,250
Pisa Cathedral	13,000	3,250
St. Stephen's, at Vienna	12,400	3,100
St. Dominic's, at Bologna	12,000	3,000
St. Peter's, at Bologna	11,400	2,850
Cathedral of Siena	11,000	2,750
St. Mark's, Venice	7,000	1,750

The piazza of St. Peter's, in its widest limits, allowing 12 persons to the quadrate meter, holds 624,000; allowing four to the same, drawn up in military array, 208,000. In its narrower limits, not comprising the porticoes or the paizza rusticci, 474,000 crowded, and 138,000 in military array, to the quadrate meter.

FALL OF CHIMNEY AT WIGAN.—It seems to us of considerable importance that the particulars of the construction of the enormous chimney, which fell the other day, at Mr. Dodd's chemical works, at Wigan, should be known. It has occupied several years in construction, and was 400 feet high. Shortly after its completion an indention of one side near the top was observed, and was watched daily, when, after a further lapse of time, a very apparent deviation from the perpendicular had taken place, and the base slightly parted from the side of the excavation. A further inclination being observed, the advice of Mr. Fairbairn, civil engineer, of Manchester, was obtained, and we believe he recommended a portion of the top being taken down. This was done, and about 80 ft. had been removed when it fell. For some time past a further sinking of the base had been observed, and a series of stays were being constructed to place round it.

TO CORRESPONDENTS.

"*Jackonoridas.*"—A plate may be used to receive ends of rafters of leanto-roof. Dripping eaves must be made fire-proof. If plate be left exposed, it must be 4½ in. from face of wall. A discharging arch over a bressummer is not enforced by the Act.

"*W. O. O.*"—We should claim *all* repairs now necessary.

"*H. J.*" (Walworth.)—We have often pointed out the tendency of the employment of external cement work to induce defective and unsound brickwork.

"*Railway Bridge.*"—A correspondent says, he has invented a wood and iron bridge suitable for bad foundations, and asks how he can make it of service to him. We cannot advise him.

"*A. G.*" (Birmingham.)—Write to Mr. Scott Russell, Secretary Society of Arts, Adelphi. (See our advertising columns.)

"*D. C.*" (Brighton.)—Ditto.

"*W. W.*"—The restoration of old Upston Church, near Slough, was strenuously advocated in our third volume.

"*J. D.*"—We have constant inquiries for the means of preventing what he complains of, namely, the vapour on shop windows when the gas is burning, but can only give a general reply—improve the ventilation. An Arnott's valve in the chimney-flue might be useful.

"*A. J. G.*"—We cannot insert the letter, which is simply an advertisement; nor can we judge of the system without knowing what it is.

"*F. E. S.*"—The following description of a cheap filter was given in our third volume, p. 213:—"On a small scale, an efficient filtering vessel may be formed of a common garden-pot, well burnt, and with holes in the bottom; the lower part to be filled with round pebbles, then some smaller pebbles, then some coarse sand, and finally a stratum of pounded charcoal, three or four inches thick; the use in large filters of broken shells interposed between the gravel and sand, is a great improvement, inasmuch as the fragments being flat, overlap each other, and counteract the tendency of the sand to settle amongst the gravel, thus preserving a free percolation through the lower strata."

Received.—"T. S.," "Subscriber," "H. W.," "Bloomsbury," "A Reader," "A Constant Reader," "S. V. C.," "J. Jones," "A." Coxe's "History of the House of Austria," London (H. G. Bohn), 1847; "Dolman's Magazine" for February, 1847; "An Address to the Inhabitants of St. James's, Westminster, on Circumstances Affecting Health," by a Retired Churchwarden (Ridgway).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

CHEMISTRY as APPLIED to CONSTRUCTION.—The second paper on this important subject will be given next week.

NOTICE.—Covers for Volume IV. of THE BUILDER, may be obtained at the Office, 2, York-street, price 2s.; or the publisher will bind sets at 3s. each.

ADVERTISEMENTS.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS
Manufactory, 98, Regent-street, and 121, Chancery-lane.

THE Patentee having fixed a great number of his shutters in London, and given universal satisfaction, can confidently recommend them both for security and durability, the edges being sheathed with Iron. Their construction is so simple that the largest establishment can be opened or closed with the greatest possible ease without the use of machinery. Their superiority over other revolving shutters consists in their great strength and stiffness, being without metal hinges, consequently cannot rust, buckle, be strained, or get out of order, and are safer. Persons dissatisfied with the patent rising rear now used for iron shutters can have it removed, and the shutters made to draw up in any part of the premises with the slightest exertion, without machinery, thereby avoiding the unpleasant use of oil.

PATENT REVOLVING SAFETY SHUTTERS, WITH CONVEX IRON LATHS.—PATENT CORRUGATED WINDOW BLINDS, &c.—The attention of Architects, Builders, and Shop-makers is requested to the IMPORTANT IMPROVEMENTS in the above articles, and inspection invited at the manufactory. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security is obvious, and it is only necessary to point out the fact, that the patent convex laths are 12 times stronger than the ordinary flat laths, to insure their general adoption. The patentee invites attention to his greatly improved gearing, for raising and lowering his patent shutters, which, possessing all the advantages of the endless screw (worm and wheel) cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet-wheel; and is at once simple and thoroughly effective, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering his Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These shutters are fitted horizontally either above or below the window or door; or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable. THE PATENTEE IS THE SOLE MANUFACTURER OF REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Engravings and prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, &c. FOR PLATE-GLASS FRONTS, &c.—Patentee and Manufacturer, JOHN HARCOURT QUINCEY, 118, Old-street, London.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters as secured by this Patent is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security, and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS the Patent for which has expired, at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters. Patent Brass or Zinc Sashes, Plain or Ornamental, handsomely Engraved, Moulded, Mail-board Plates, Cast Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house. Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 28, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

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